

Date: Friday, 04/04/2008
User: Julie Lecocq

Customer: CU-DAR

Job Number: 38385

Job Number:

Seq. #: Machine

9.0 QC5

Comment: INSP

10.0 D25763

Comment: Qty:

Pick:

Qty

1

11.0 D2579

Comment: Qty:

Pick:

Qty

20

12.0 LARGE F

Comment: LARG

2-Well

A/R

3-Well

For D2

A/R

4-Grin

5-Drill

web.D

6-Cou

7-Drill

8-Drill

Date: Friday, 04/04/2008 9:52:27 AM
User: Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
Job Number : 38385
Estimate Number : 10023
P.O. Number :
This Issue : 04/04/2008 S.O. No. :
Prsht Rev. : NC
First Issue : 04/04/2008 Type : LANDING GEAR
Previous Run : 38384
Drawing Name : SKID TUBE ASSEMBLY
Part Number : D205634041
Drawing Number : D2580 REV D
Project Number : N/A
Drawing Revision : D
Material :
Due Date : 05/05/2008 Qty: 1 Um: Each

Written By :
Checked & Approved By : JO 08.04.4
Comment : Est Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ
Est Rev. O 06.02.28 Added paperwork EC
Est Rev:P 07-07-09 SS Wearplates & Gaskets JLM

Additional Product

Job Number:

Seq. #: Machine Or Operation: Description :

1.0 DC

DOCUMENT CONTROL

Comment: DOCUMENT CONTROL

Photocopy D205-634 bluefile & type labels per PPP D205-634 CHG002

2.0 D25001190

Ext'n -1" Beam Tube 4"

Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description
1 D2500-1-190 Skid Tube Extrusion

Batch

B-29602 AWM 8-4-7

3.0 D2596

205 Web

Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description
1 D2596 205 Web

Batch

638399 DK 7-4-9

4.0 SKIDTUBES 1

SKIDTUBESS RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2580 if necessaryDeburr ends

3-Acid etch and Alodine tube per QSI 005 4.1

AWM 8-4-7

Dart Aerospace Ltd

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action		Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng				

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:52:27 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38385

Part Number: D205634041

Job Number:



Seq. #: Machine Or Operation: Description :

28.0 D356411 WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1337811

JK

29.0 D35649 WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1337812

JK

30.0 D35645 WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1338297

JK

31.0 D25943 O-Ring



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

O-Ring

Batch: 1329908

JK

32.0 D25941 Plug



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug

Batch: 1337926

JK

33.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

AR Sikaflex-291 11107397
Sikaflex expire date 08/10

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

JK

08-04-10

(X)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 04/04/2008 9:52:27 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38385

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

✓ A/R Sikaflex-291 M107397 { 8D 08.04-16 (X)
Sikaflex expire date: 08/10

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: M106894 M-A 08/04/17 (X)

34.0

QC5

INSPECT WORK TO CURRENT STEP



08/04/18



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-041

Location: 73

PPP Rev: H

8/4/18

SC

(X)

36.0

QC21

FINAL INSPECTION/W/O RELEASE



08/04/21

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MC 08-04-18

B38385

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE		By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASED
07-06-28

DESIGN #	DRAWN BY RH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 38385

Copyright © 1996 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

NO. 147

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 38305
Part number: D205 B4 041
Description: skid tube 205
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[]
Penetration:	pass[<input checked="" type="checkbox"/>]	fail[]

UNACCEPTABLE

Cracks:	pass[<input checked="" type="checkbox"/>]	fail[]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[]
Overlap (cold lap)	pass[<input checked="" type="checkbox"/>]	fail[]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[]

Qualifier Pat. Dival. Date of Test Coupon 08-04-14
Welder Barclay Elliot Date of Test Coupon 08-04-14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Diagram illustrating the cross-section of a pipe with four vertical stiffeners. The stiffeners are spaced 3.500 units apart. The distance from the centerline to the outer edge of the stiffeners is 1.750 units.

RELEASED
07-06-28

Diagram illustrating the underside of a component, showing grinding locations and features:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\frac{1}{4}$

Diagram illustrating the assembly of a bolted joint. The components and dimensions shown are:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)**: Indicated by arrows pointing to the locations where the cap is installed.
- SEAL WITH SIKAFLEX-241/-291**: Indicated by an arrow pointing to the sealant application area.
- AN3-5A BOLT (1)**: The bolt used for assembly.
- AN96QJD10L WASHER (1)**: The washer used for assembly.
- D2855 CAP**: The cap being installed.
- 0.40**: Dimension indicating the thickness of the material being joined.
- Ø0.208**: Dimension indicating the diameter of the hole.

Diagram illustrating the assembly of the propeller hub, showing the D2579 SPACER, D2596 WEB (REF), and ALS7-1032-130 (REF) components. The diagram includes a note: AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

Technical drawing of a beam section showing dimensions and reinforcement details. The drawing includes the following information:

- Top Left:** A triangle with the number 3 inside, and a triangle with the number 7 inside. Above them is the dimension 37.50. Below the triangles is the text "DISTANCE TO AFT END OF D2596 WEB".
- Top Right:** The text "Ø0.508 (TYP.) (40 PLACES)" with a line pointing to the reinforcement bars.
- Right Side:** The text "REFER TO DETAIL A" with a line pointing to a circular detail view on the right.
- Bottom Left:** The text "REFER TO DETAIL A" with a line pointing to a circular detail view on the left.
- Dimensions:**
 - 1.750 (twice, between vertical lines)
 - 8.750 (from left edge to first vertical line)
 - 17.375 (from left edge to second vertical line)
 - 26.000 (from left edge to third vertical line)
 - 34.188 (from left edge to fourth vertical line)
 - 38.0 (from left edge to first vertical line)
 - 91.500 (from left edge to right edge)
 - 57.313 (REF) (from left edge to right edge)
 - 7 EQUAL SPACES (from left edge to right edge)
 - 8.188 PITCH (from left edge to right edge)
 - 190.0 (D2500-1) (total length)

Technical drawing of a road cross-section showing a drainage ditch. The ditch is 1.4m wide at the top and 1.0m wide at the bottom. The distance between the hole and the tangent point is 13.4m. The ditch is 32.0 ± 1.0m long. The slope is 20.0% and the ditch depth is 11.5m. The ditch is labeled with a 4% slope and a 1.0m distance between hole and tangent point.

AFT SECTION

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5

1.5

1.5

D

P

P

P

P

P

P

P

8

1.5

1.5

1.5

REFER TO DETAIL C

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9






D3564-13

AN3C4A BOLT (1)

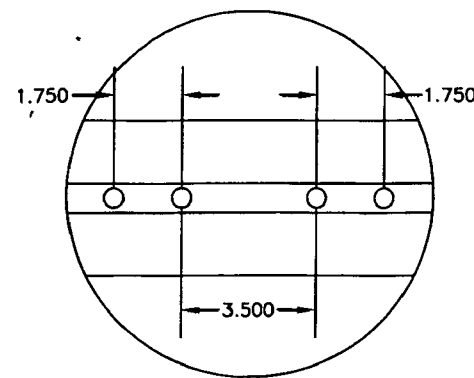
AN960C10L WASHER (1)

(50 PLACES)

DESIGN	JJ	DRAWN BY	[REDACTED]
--------	----	----------	------------

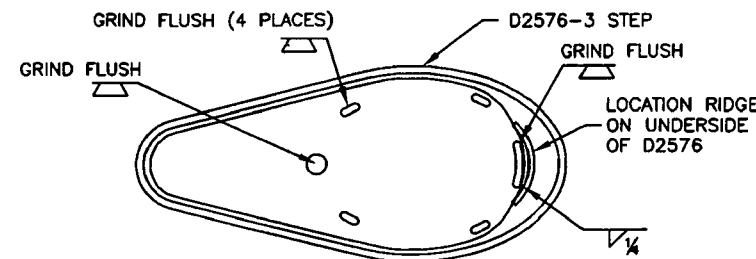
COPYRIGHT © 1996 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	DESIGN 	DRAWN BY 		DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
	CHECKED 	APPROVED 	DRAWING NO. D2580	REV. SHEET 2 OF
	DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:2

DETAIL E
SCALE 5:24

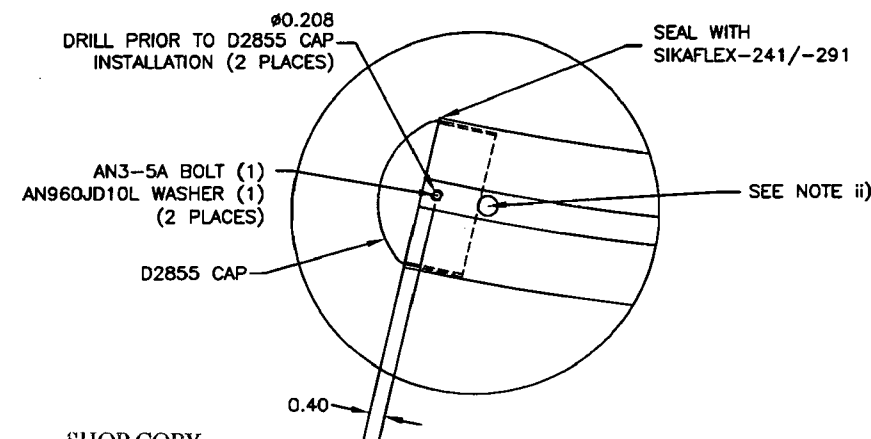


RELEASED
07.02.28

DETAIL F
SCALE 5:24

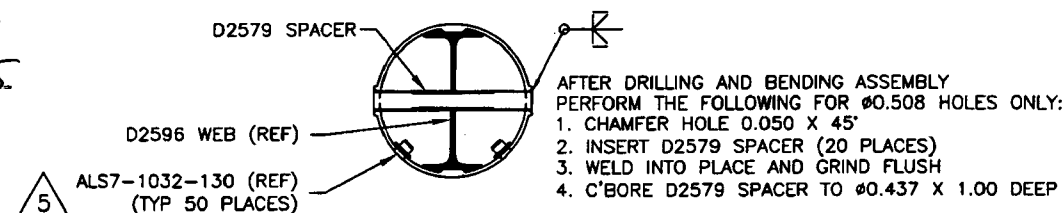


DETAIL G
SCALE 5:24



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 38385

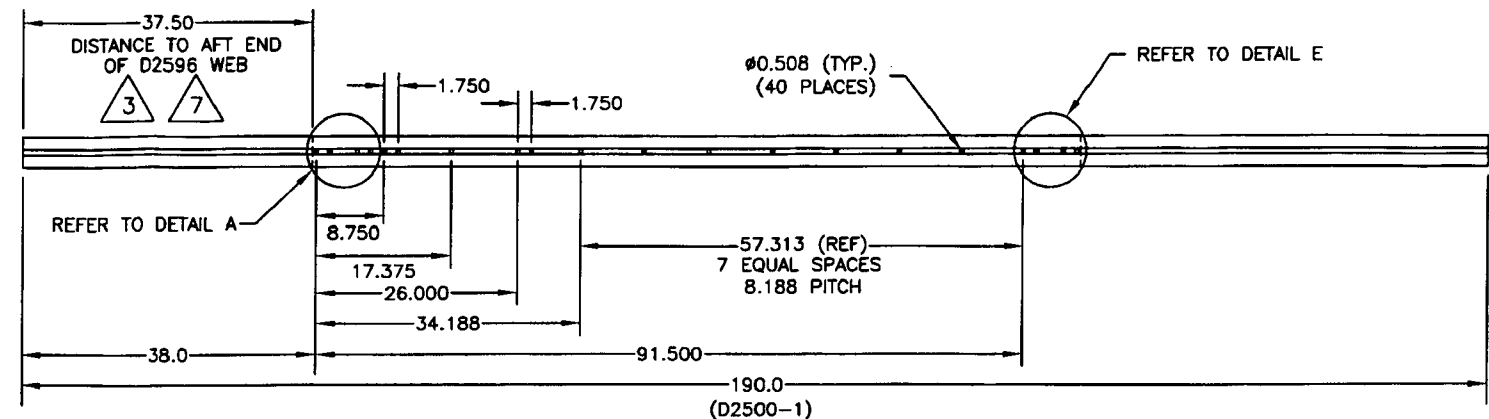
SECTION H-H
SCALE 5:24



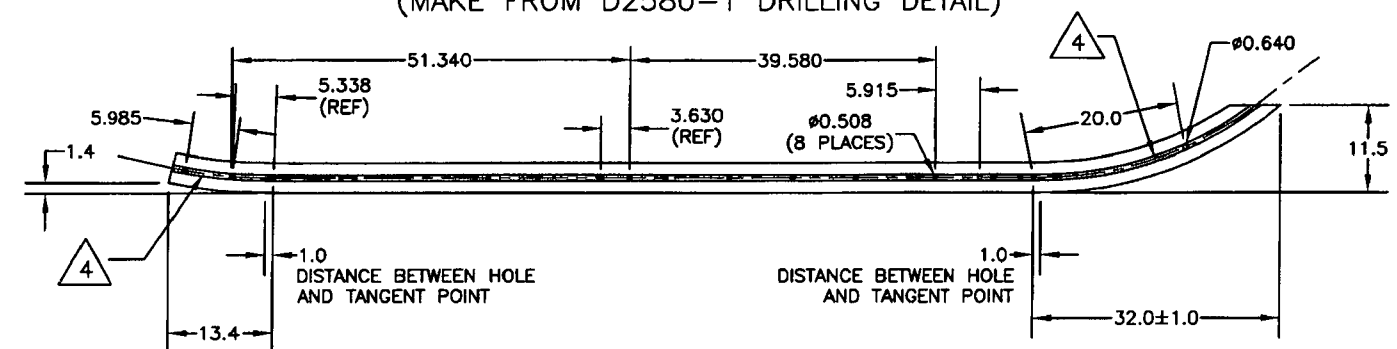
D2580-045 NOTES

- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

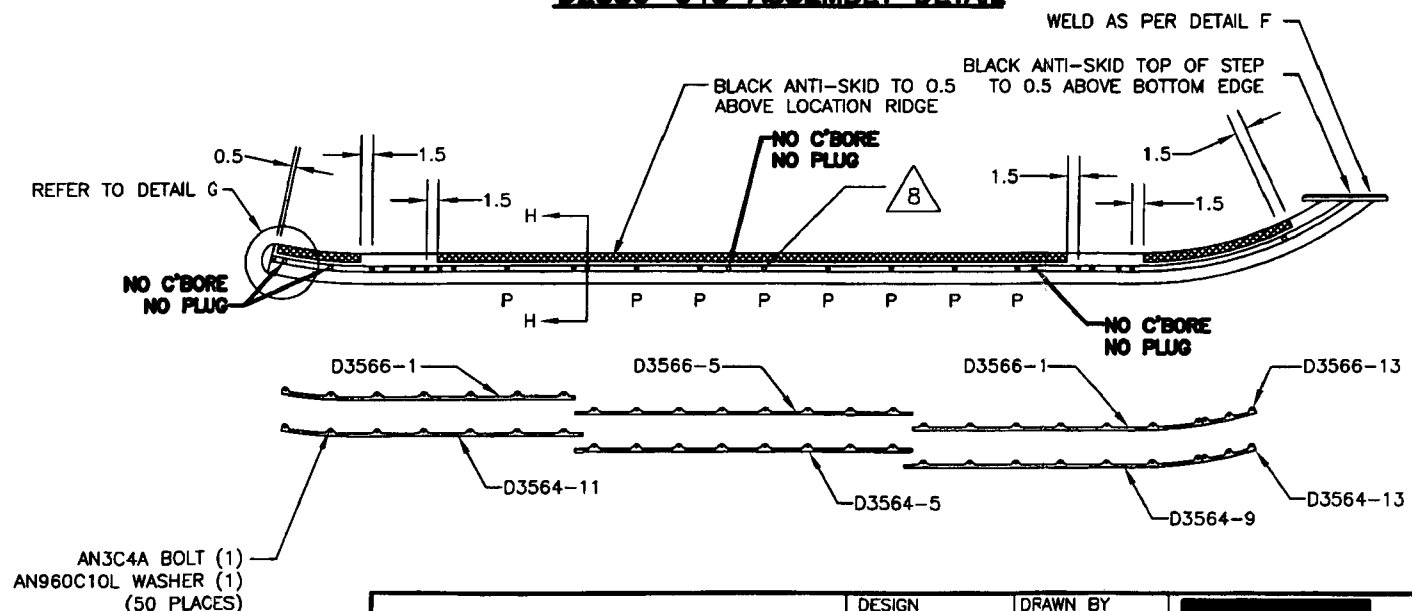
D2580-1 DRILLING DETAIL



D2580-5 BENDING AND CUTTING DETAIL
(MAKE FROM D2580-1 DRILLING DETAIL)



D2580-045 ASSEMBLY DETAIL



COPYRIGHT © 1996 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL
AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE LTD.

DESIGN RH	DRAWN BY RH	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED H	APPROVED H	DRAWING NO. D2580	REV. D SHEET 3 OF 3
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24	

